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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,570	06/12/2006	Thomas Scherer	WUE-61	1698
7590 10/05/2009				
Thomas J Burger Wood Herron & Evans 2700 Carew Tower 441 Vine Street Cincinnati, OH 45202-2917			EXAMINER RUBY, TRAVIS C	
			ART UNIT 3744	PAPER NUMBER
			MAIL DATE 10/05/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,570

Applicant(s)

SCHERER ET AL.

Examiner

TRAVIS RUBY

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the **abstract not exceed 150 words in length** since the space provided for the abstract on the computer tape used by the printer is limited. **The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided.** The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and **should not repeat information given in the title**. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it exceeds the 150 word limit, uses legal phraseology (means in line 18), and repeats information given in the title. Correction is required. See MPEP § 608.01(b).
4. Claims 2-8 are objected to because of the following informalities: "characterised" should be changed to --characterized--. Appropriate correction is required.
5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 1 and 9 recites "the respective actual temperatures" and "the respective nominal temperatures" when there is no antecedent basis in the claim for this language.

6. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

7. The disclosure is objected to because of the following informalities:

- a. "Brief description of drawings" subtitle missing from the specification. All subtitle headings should be included as specified by 37 CFR 1.77(b) as detailed above.
- b. Page 1 line 17, "An" should be replaced with --A--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. The term "essentially" in claims 1 line 1 of page 3 and claim 9 line 6 is a relative term which renders the claim indefinite. The term "essentially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear as to whether the pre-tempered air has to actually reach the lowest nominal temperature or just be within a general range.

11. Claim 1 recites the limitation "the individual sections" in line 6. There is insufficient antecedent basis for this limitation in the claim.

12. Claim 1 recites the limitation "the other sections" in paragraph 9. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 1 paragraph 8 recites "all sections" is confusing and perhaps should be changed to "all of the sections" to clarify the meaning.

14. The term "close to" in claim 2 is a relative term which renders the claim indefinite. The term "close" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably

apprised of the scope of the invention. It is unclear as to where the heating unit is located in respect to the entrance of the section since "close" is a relative term.

15. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 2 recites the broad recitation "heating units in the supply lines", and the claim also recites "preferably close to the entrances to the respective sections" which is the narrower statement of the range/limitation.

16. Claim 6 recites the limitation "the characteristics of the respective sections" in line 4. There is insufficient antecedent basis for this limitation in the claim. In addition, it is unclear as to what these "characteristics" are as the specification is silent as to what they include, rendering the claim indefinite.

17. Claim 8 recites "one central section temperature regulator". It is unclear as to where "central" is in relation to other parts of the device. Is it a central controller for just the individual

room section or is it a central controller that is located outside the section in a separate room?

The limitation is vague and renders the claim indefinite.

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 1, 2, 4, and 6-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Drew et al (US5511385).

Drew et al teaches:

Re Claim 1. A device (ref 100 Figure 1) for regulating the temperature of sections of the interior of an aircraft with:

a controlled mixer valve (ref 240) for the mixing of engine (ref 128) bleed air with air cooler than the engine bleed air in order to obtain pre-tempered mixed air flowing out of the mixer valve (Column 4 lines 36-54);

a distribution line (ref 292) connected to the outlet of the mixer valve which is connected with the respective sections by means of at least two supply lines (ref 292 is connected to ref 324 via ref 320 which is a second supply line to a different section, Column 5 line 65 to Column 6 line 9);

individual heating units (ref 104 and 108) assigned to the respective sections (Column 3 lines 15-50);

sensors (refs 340, 368) assigned to the individual sections for the respective actual temperatures and transmitters (ref 372, 344) for the respective nominal temperatures (Column 6 lines 20-30, Column 7 lines 28-34);

a regulator unit (ref 248) which controls the mixer valve dependent upon the respective nominal temperatures and the respective actual temperatures of the individual sections in such a way that the pre-tempered mixed air is of a temperature which essentially corresponds to the lowest of the nominal temperatures of all sections; and controls the heating units assigned to the other sections corresponding to the differences between the respective nominal temperatures and the respective actual temperatures (Column 6 lines 18-43, Column 9 lines 35-53).

Re Claim 2. Device in accordance with claim 1, characterized in that the heating units in the supply lines are preferably positioned close to entrances to the respective sections (Figure 1 shows that they are close to the entrances, Column 3 lines 15-50).

Re Claim 4. Device in accordance with claim 1, characterized in that the sensors (refs 340,368) for the respective actual temperatures are positioned in the individual sections and/or in the supply lines down current from the heating units (Figure 1, Column 6 lines 20-30, Column 7 lines 28-34).

Re Claim 6. Device in accordance with claim 1, characterized in that the regulator unit takes into consideration the nominal temperatures, the actual temperatures and the characteristics of the respective sections for the control of the heating units (Column 6 lines 18-43, Column 9 lines 35-53).

Re Claim 7. Device in accordance with claim 1, characterized in that the transmitters and/or heating units are coupled to the regulator unit by means of one or several data buses (ref 244, Column 6 lines 35-43).

Re Claim 8. Device in accordance with claim 1, characterized in that the regulator unit has at least one central section temperature regulator (ref 248) and a decentralized heat regulator (ref 152 controls the final temperature of the heat exchanger) for each heating unit (Column 5 lines 35-53, Column 6 lines 18-43).

Re Claim 9. Process for regulating the temperature of sections of the interior of an aircraft with the following steps:

recording of the respective actual temperatures and the respective nominal temperatures in the individual sections (Column 6 lines 18-43);

mixing of engine bleed air and air which is cooler than the engine bleed air in order to obtain pre-tempered mixed air at a temperature which essentially corresponds to the lowest of the nominal temperatures recorded (Column 4 lines 36-54, Column 6 lines 18-43);

distribution of the pre-tempered mixed air to all sections (ref 292 is connected to ref 324 via ref 320 which is a second supply line to a different section, Column 5 line 65 to Column 6 line 9); and

post tempering of the mixed air distributed to the sections with higher nominal temperature corresponding to the differences between the respective nominal temperatures and the respective actual temperatures (Column 6 lines 18-43, Column 9 lines 35-53).

Re Claim 10. Process in accordance with claim 9 which takes into consideration the nominal temperatures, the actual temperatures, and respective section characteristics for post-tempering (Column 6 lines 18-43, Column 9 lines 35-53)..

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Drew et al (US5511385) in view of Fischer et al (US5545084, as cited by applicant).

Re Claim 3. Drew fails to specifically teach that the heating units are made from electric heating elements. Fisher et al teaches electric heaters in air supply ducts to each zone (Column 4 lines 61-63). It would have been obvious to one of ordinary skill in the art at the time of invention to have modified Drew et al by employing electric heaters since it allows for finite temperature control close to the individual zones.

22. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Drew et al (US5511385) in view of Buchholz et al (US20010032472A1).

Re Claim 5. Drew et al fails to specifically teach that the air which is cooler than the engine bleed air and which is supplied to the mixer valve comes out of a mixing chamber. Buchholz et al teaches that the air which is cooler than the engine bleed air and which is supplied to the mixer valve comes out of a mixing chamber (ref 3 Figure 1) (abstract, Paragraphs 25-26). In view of Buchholz et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of invention to include a mixing chamber to Drew et al's temperature regulator since it allows for precise control over the temperature of the air being conditioned.

Response to Arguments

23. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRAVIS RUBY whose telephone number is (571)270-5760. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules or Cheryl Tyler can be reached on 571-272-6681 or 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Travis Ruby/
Examiner, Art Unit 3744

/Frantz F. Jules/
Supervisory Patent Examiner, Art Unit 3744